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## ROCKCASTLE COUNTY

### (Rockcastle County Water Service Area Map)

- Estimated 1999 population of 15,900--82% on public water
- Estimated 2020 population of 17,100--100% on public water
- 360 miles of water lines, with plans for 220 additional miles
- Estimated funding needs for public water 2000-2005--none
- Estimated funding needs for public water 2006-2020--\$19,740,000

Rockcastle County had an estimated population of 15,887 (6,347 households) in 1999 with a projected population of 17,091 (7,541 households) in 2020. Public water is provided to about 82 percent of the county's residents. In areas of the county not served by public water, about 40 percent of the households rely on private domestic wells and 60 percent of the households rely on other sources. Virtually 100% of the county will be on public water service after new line extensions in 2000-2020.

### *Estimated Costs - Proposed Projects, 2006-2020*

| COUNTY/System           |       | New<br>Customers |                | Rehab     | Source    | Treatment | Tanks/<br>Pumps | Total     |
|-------------------------|-------|------------------|----------------|-----------|-----------|-----------|-----------------|-----------|
|                         | Miles | Number           | Cost in \$1000 | in \$1000 | in \$1000 | in \$1000 | in \$1000       | in \$1000 |
| ROCKCASTLE              |       |                  |                |           |           |           |                 | -         |
| Livingston W/D          | 1.7   | 21               | 80             |           |           |           |                 | 80        |
| Mt. Vernon W/W          | 32    | 271              | 1,600          |           |           |           | 1,100           | 2,700     |
| Rockcastle Water Assoc. | 156.3 | 1,273            | 7,900          |           |           |           | 5,500           | 13,400    |
| Western Rockcastle      | 29    | 808              | 1,500          |           |           |           | 2,060           | 3,560     |
| Total                   | 219   | 2,373            | 11,080         |           |           |           | 8,660           | 19,740    |

### PUBLIC WATER SYSTEMS

Rockcastle County has 6 community water systems: 3 municipal, Brodhead Water Works, Livingston Municipal Water Works, and Mt. Vernon Water Works; 2 water associations, Rockcastle County Water Association and Western Rockcastle County Water Association; and 1 water district, Northern Rockcastle County Water District.

### **BRODHEAD WATER WORKS**

PWSID: ..... 1020889  
System Type:..... COMMUNITY  
Owner Type: ..... MUNICIPAL  
Surface Source:  
Purchase Source: ..... MOUNT VERNON WATER WORKS  
Well Source:

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Sells Water to:  
Treatment Plant Capacity (MGD):..... 0.00  
Percent Daily Average Production:..... 0.00  
Total Tank Storage Capacity (gallons):..... 125,000.00  
Total Service Connections: ..... 501.00  
Number of Employees:..... 2.00  
Treatment Operator Class: .....2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons:..... 5.69  
O/M costs 1997:..... Not available  
O/M costs per Service Connection: ..... Not available  
Net Revenue 1997:..... Not available  
Total Water Produced 1997 (gallons):..... Not available  
Water Sold 1997 (gallons):..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

Brodhead Water Works buys water from Mt. Vernon Water Works. This system currently serves 485 residential customers, 15 commercial customers and one industrial customer. The storage capacity of this system is 125,000 gallons of water in their two tanks. The base charge is \$9.75 per 2,000 gallons inside the city limits and \$13.00 per 2,000 gallons of water outside the city limits.

#### **LIVINGSTON MUNICIPAL WATER WORKS**

PWSID:..... 1020253  
System Type:..... COMMUNITY  
Owner Type: ..... MUNICIPAL  
Surface Source:..... ROUNDSTONE CREEK  
Purchase Source: .....WOOD CREEK WATER DISTRICT  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD):..... 0.00  
Percent Daily Average Production:..... 0.00  
Total Tank Storage Capacity (gallons):..... 72,000.00  
Total Service Connections: ..... 195.00  
Number of Employees:..... 1.00  
Treatment Operator Class: .....1D  
Distribution Operator Class:.....2A  
Customer Rate for 1,000 Gallons:..... 6.75  
O/M costs 1997:..... Not available  
O/M costs per Service Connection: ..... Not available  
Net Revenue 1997:..... Not available  
Total Water Produced 1997 (gallons):..... Not available  
Water Sold 1997 (gallons):..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

Livingston Municipal Water Works purchases water from Wood Creek Water District. This system currently serves 195 residential customers. The base charge is \$13.50 for the first

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2,000 gallons of water. This system currently has one storage tank with a storage capacity of 72,000 gallons of water. The water source is Roundstone Creek.

**MOUNT VERNON WATER WORKS**

PWSID: ..... 1020299  
System Type: ..... COMMUNITY  
Owner Type: ..... MUNICIPAL  
Surface Source: ..... LAKE LINVILLE  
Purchase Source:  
Well Source:  
Sells Water to: ..... ROCKCASTLE COUNTY WATER ASSOCIATION  
Treatment Plant Capacity (MGD): ..... 4.00  
Percent Daily Average Production: ..... 86.00  
Total Tank Storage Capacity (gallons): ..... 1,375,000.00  
Total Service Connections: ..... 1,900.00  
Number of Employees: ..... 9.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class: ..... 3A  
Customer Rate for 1,000 Gallons: ..... 4.09  
O/M costs 1997: ..... Not available  
O/M costs per Service Connection: ..... Not available  
Net Revenue 1997: ..... Not available  
Total Water Produced 1997 (gallons): ..... Not available  
Water Sold 1997 (gallons): ..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

Mt. Vernon Water Works acquires water from Lake Linville. According to the Rockcastle County Water Supply Plan, Lake Linville has an adequate supply of raw water to support future needs. This system currently serves 1,786 residential, 256 commercial customers, five industrial customers and three institutional customers. This system sells treated water to Brodhead Water Works, Rockcastle County Water Association and Western Rockcastle County Water Association. The water treatment plant has the total production capacity of 4 million gallons of water per day. On an average day, the plant treats 1,334,362 or about 33% of its designed capacity. The total storage capacity for the five tanks is 1.375 million gallons. The basic rate charged is \$6.76 per 2,000 gallons of water inside the city limits and \$9.60 per 2,000 gallons of water outside the city limits.

**ROCKCASTLE COUNTY WATER ASSOCIATION**

PWSID: ..... 1020288  
System Type: ..... COMMUNITY  
Owner Type: ..... WATER ASSOCIATION  
Surface Source:  
Purchase Source: ..... JACKSON COUNTY WATER ASSOCIATION

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Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD):..... 0.00  
Percent Daily Average Production:..... 0.00  
Total Tank Storage Capacity (gallons):..... 165,000.00  
Total Service Connections: ..... 122.00  
Number of Employees:..... 0.00  
Treatment Operator Class: ..... 1D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons:..... 7.72  
O/M costs 1997:..... 17,132.00  
O/M costs per Service Connection: ..... 145.19  
Net Revenue 1997: ..... 352.00  
Total Water Produced 1997 (gallons):..... 0.00  
Water Sold 1997 (gallons):..... 4,210,400.00  
Unaccounted-for Water 1997 (%): ..... 12.67

The Rockcastle County Water Association purchases water from Mt. Vernon Water Works and the Jackson County Water Association. This system currently serves 122 residential customers, with 96 being in Rockcastle County and 26 located in Jackson County. This system has two storage tanks that are under construction.

**WESTERN ROCKCASTLE WATER ASSOCIATION**

PWSID:..... 1020891  
System Type:..... COMMUNITY  
Owner Type: ..... WATER ASSOCIATION  
Surface Source:  
Purchase Source: ..... MOUNT VERNON WATER WORKS  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD):..... 0.00  
Percent Daily Average Production:..... 0.00  
Total Tank Storage Capacity (gallons):..... 700,000.00  
Total Service Connections: ..... 4,482.00  
Number of Employees:..... 0.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons:..... 4.34  
O/M costs 1997:..... 395,569.00  
O/M costs per Service Connection: ..... 176.75  
Net Revenue 1997: ..... 33,281.00  
Total Water Produced 1997 (gallons):..... 0.00  
Water Sold 1997 (gallons):..... 125,039,200.00  
Unaccounted-for Water 1997 (%): ..... 8.52

The Western Rockcastle Water Association purchases water from Mt. Vernon Water Works. They serve 2,235 residential customers, with 1,699 in Rockcastle County, 447 in

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Lincoln County, 78 in Pulaski County, 12 in Madison County and 11 in Garrard County. This association has eight storage tanks with a capacity of 700,000 gallons of water.

### **NORTHERN ROCKCASTLE COUNTY WD**

Northern Rockcastle County WD is located in Rockcastle County. The system serves a population of 2,657 and has 805 service connections. The district's water source is Mt Vernon Water Works. The charge for the first 5,000 gallons of water was \$25.73. The system purchased 66,463,000 gallons and sold 44,231,700 gallons for 1997. Overall system losses were 15.4% for the same period.

### **PRIVATE DOMESTIC SYSTEMS**

About 2,800 people in Rockcastle County rely on private domestic water supplies: 1,100 on wells and 1,700 on other sources.

In the eastern half of the county, most of the wells drilled in valley bottoms are adequate for a domestic supply. About half the wells drilled on hillsides are adequate for a domestic supply. Wells on ridges and hills yield smaller quantities of water. In the western half of the county, fewer than half the wells drilled in valley bottoms are adequate for a domestic supply except where limestone is the predominant rock. In limestone rich areas, three-quarters of the wells drilled in the valleys or uplands can produce adequate amounts of water for domestic supplies. Throughout most of the county, wells on hillsides and ridges generally yield smaller quantities of water than wells drilled in valley bottoms.

Salty water may be found in wells drilled less than 100 feet below the level of the principal valley bottoms. At greater depths no fresh water probably will be found.

Springs in limestone may supply enough water for domestic use.

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